FIG._1A

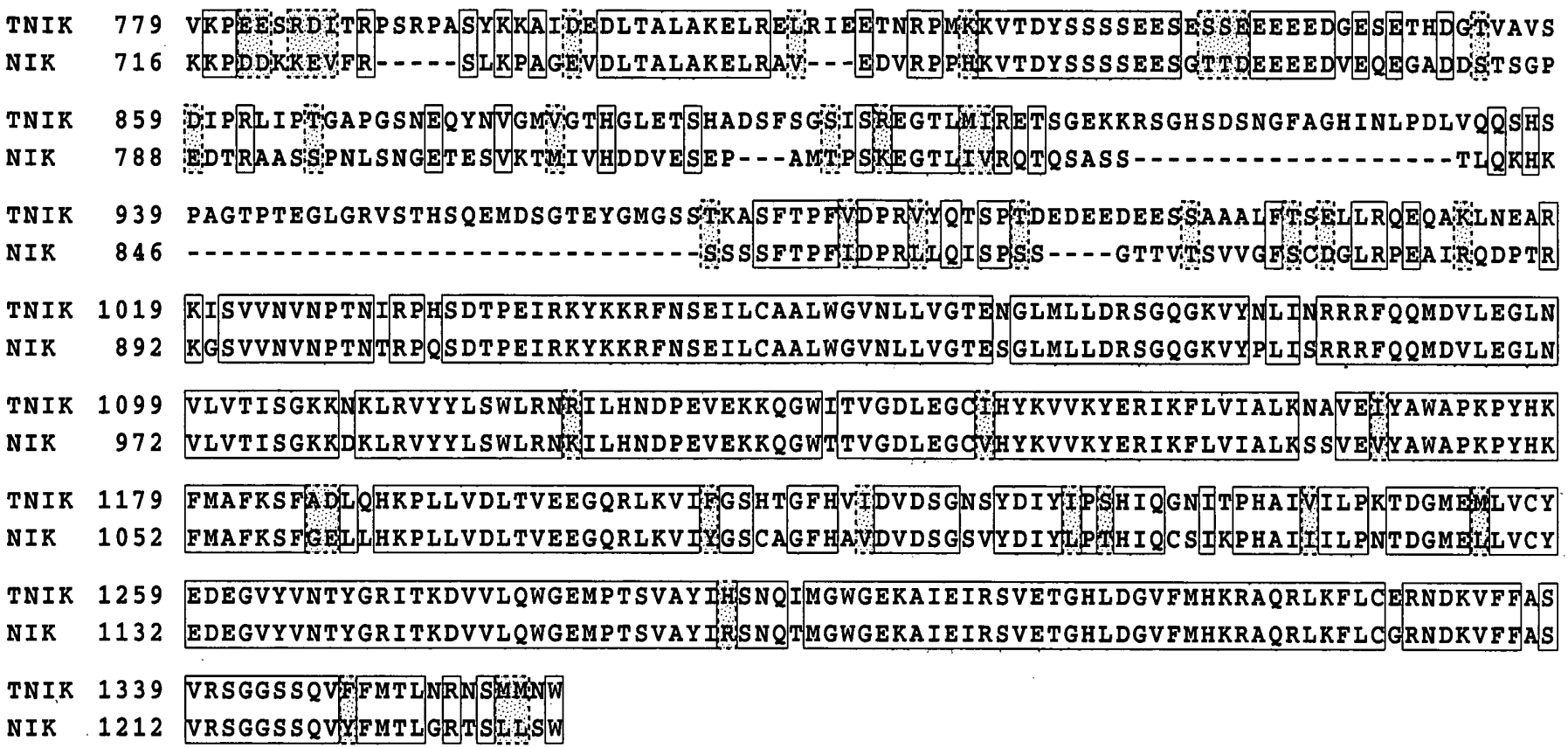


FIG._1B

Application No.: 09/645,456
Applicant: Fu et al.
Title: NOVEL GERMINAL CENTER KINASE CELL CYCLE PROTEINS etc.
Sheet 2 of 35

FIG._2

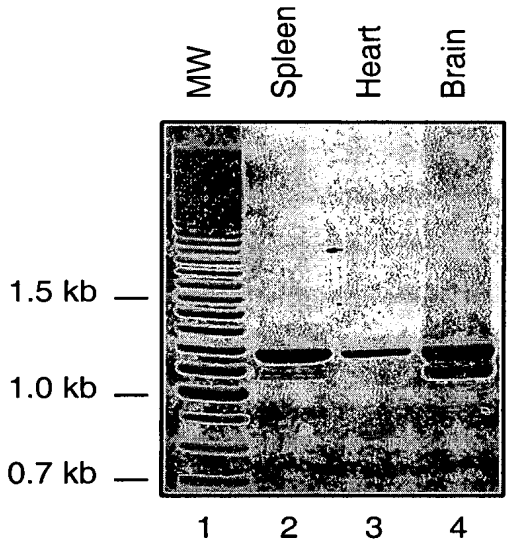


FIG._3

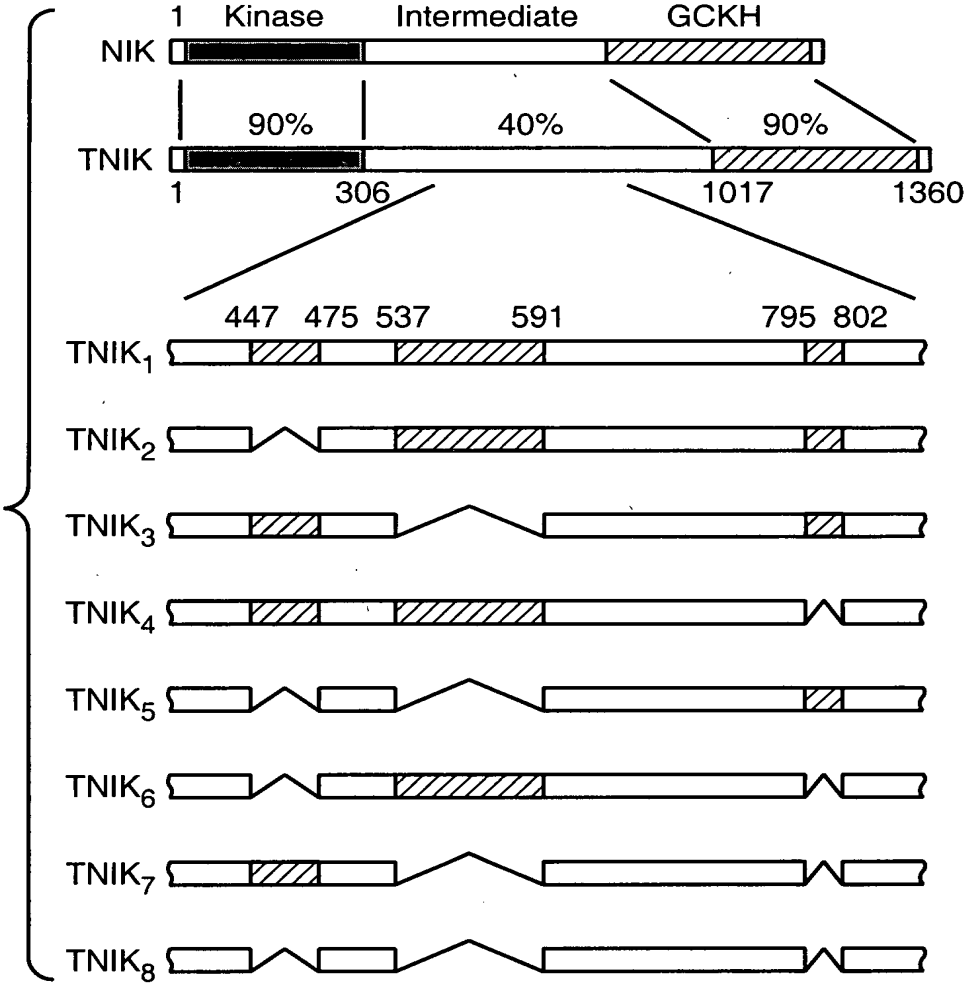


FIG._4

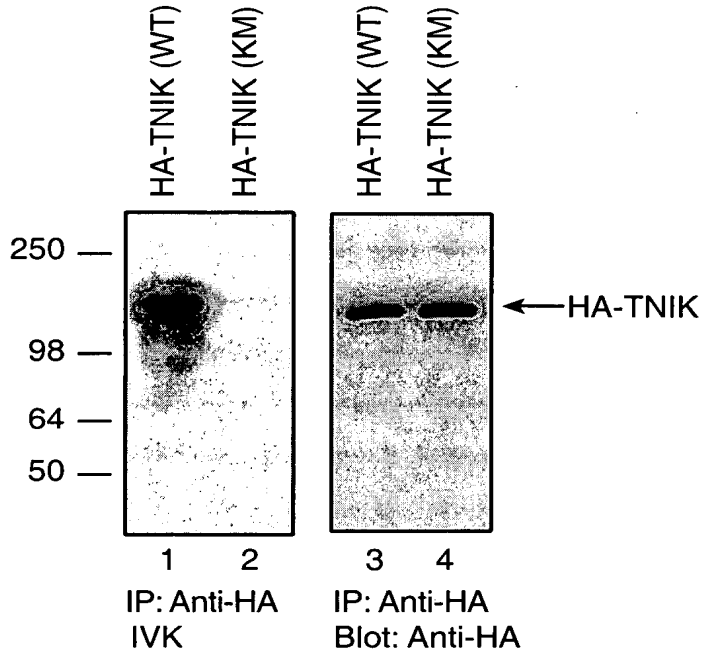


FIG._5A

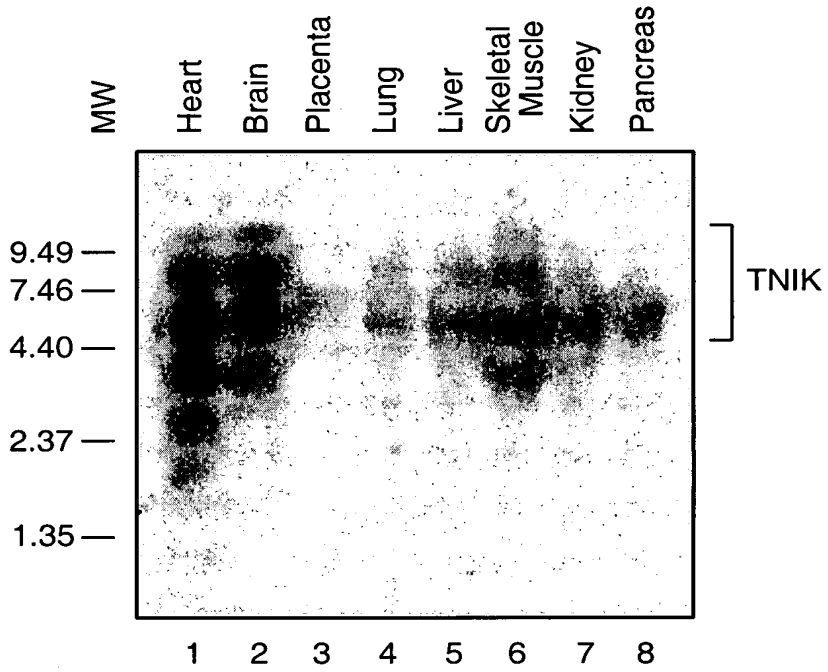


FIG._5B

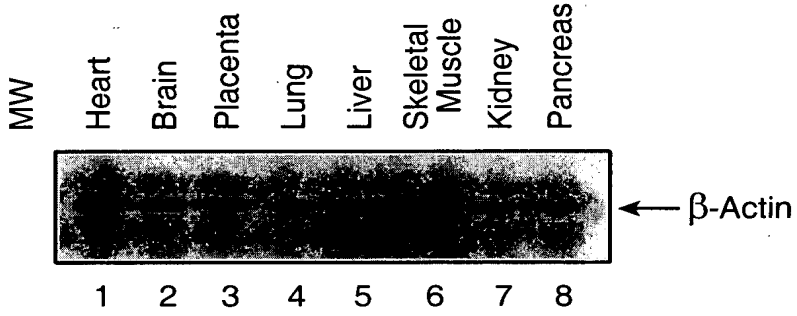


FIG._6

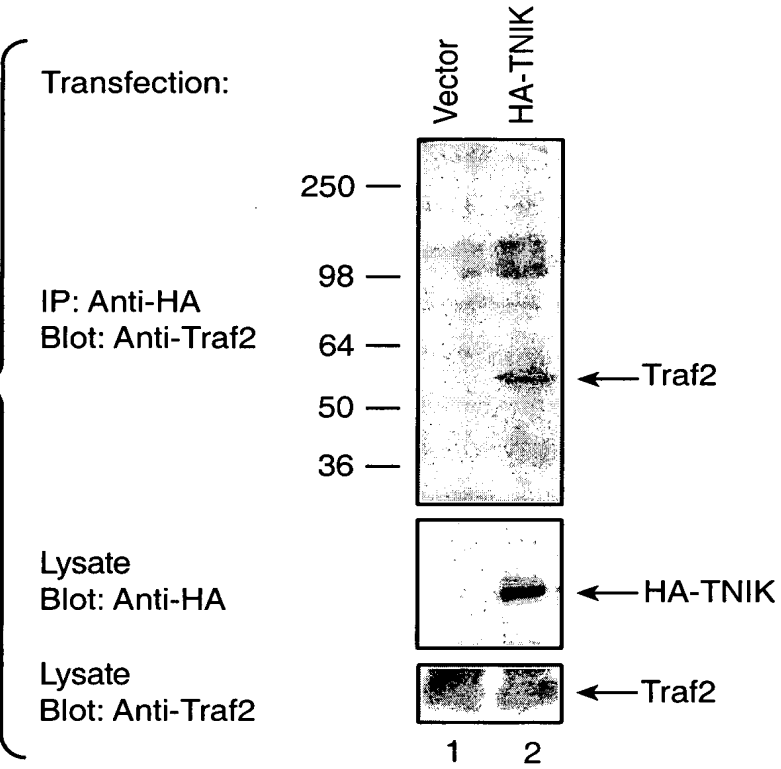


FIG._7

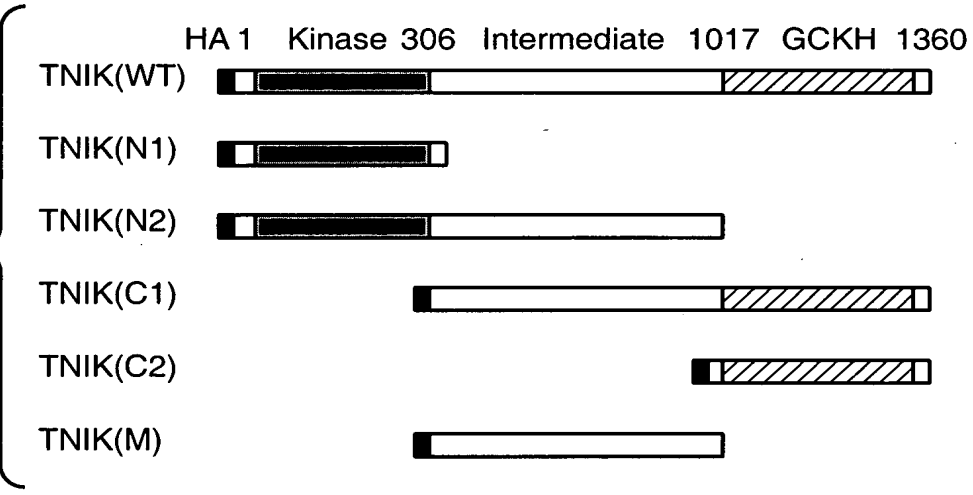


FIG._8A

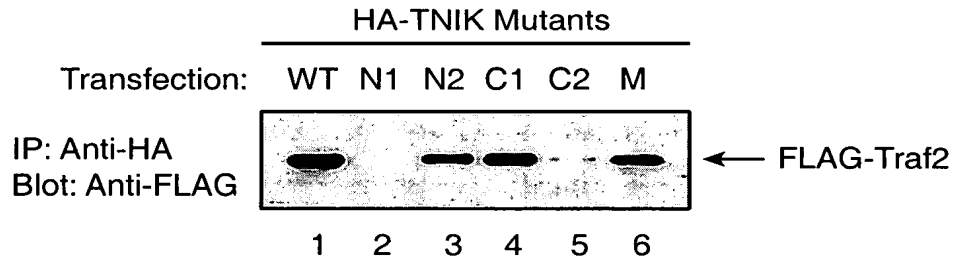


FIG._8B

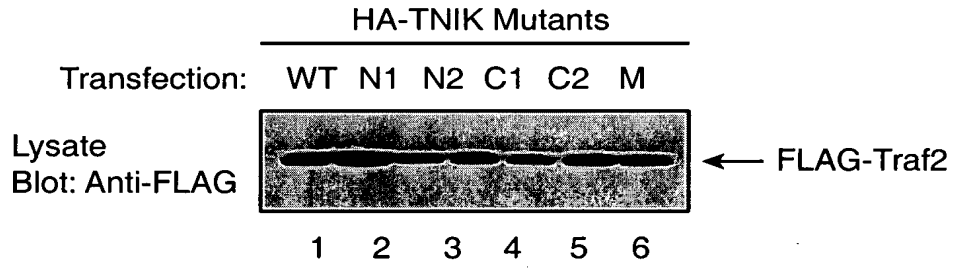
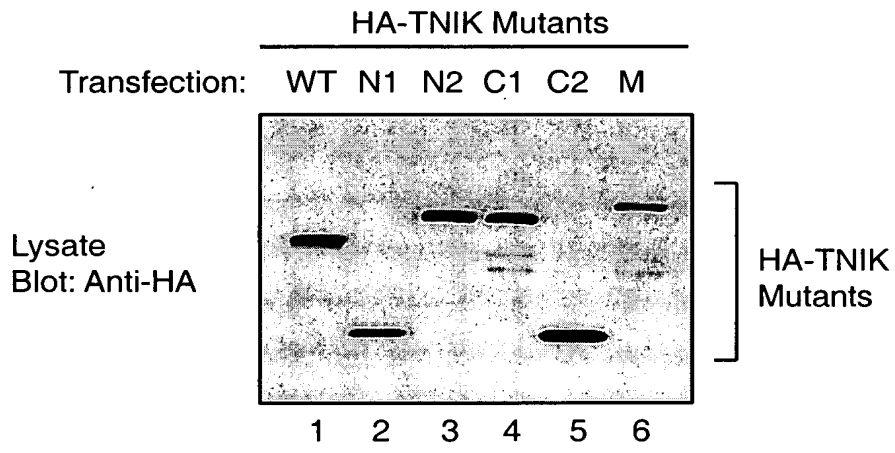


FIG._8C



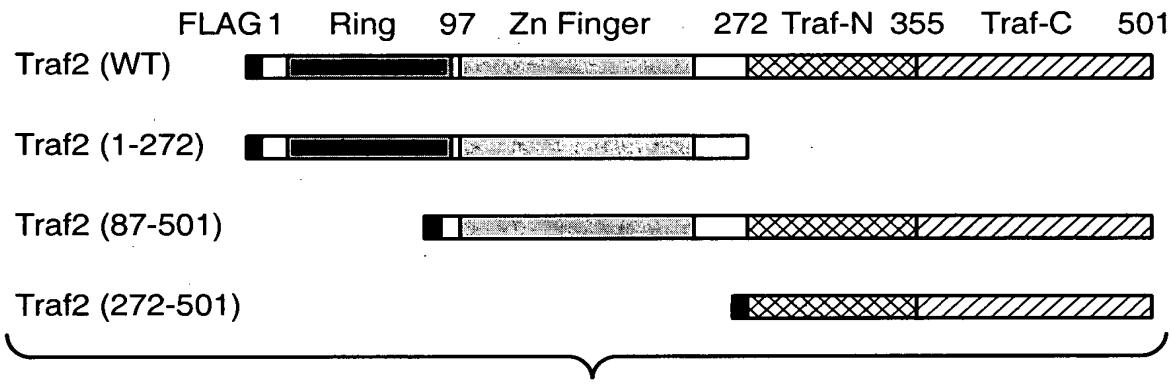


FIG._9

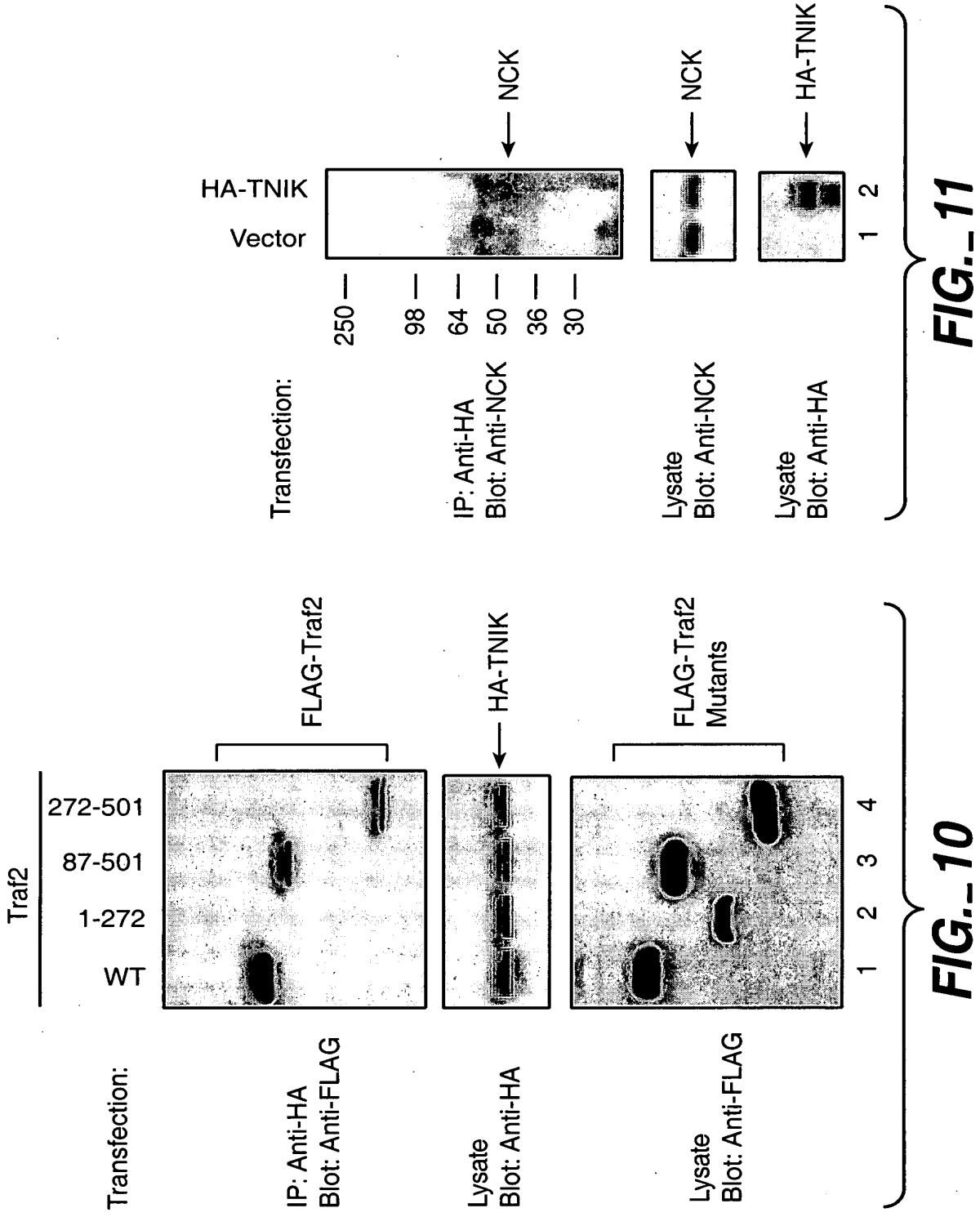


FIG._11

FIG._10

FIG._12

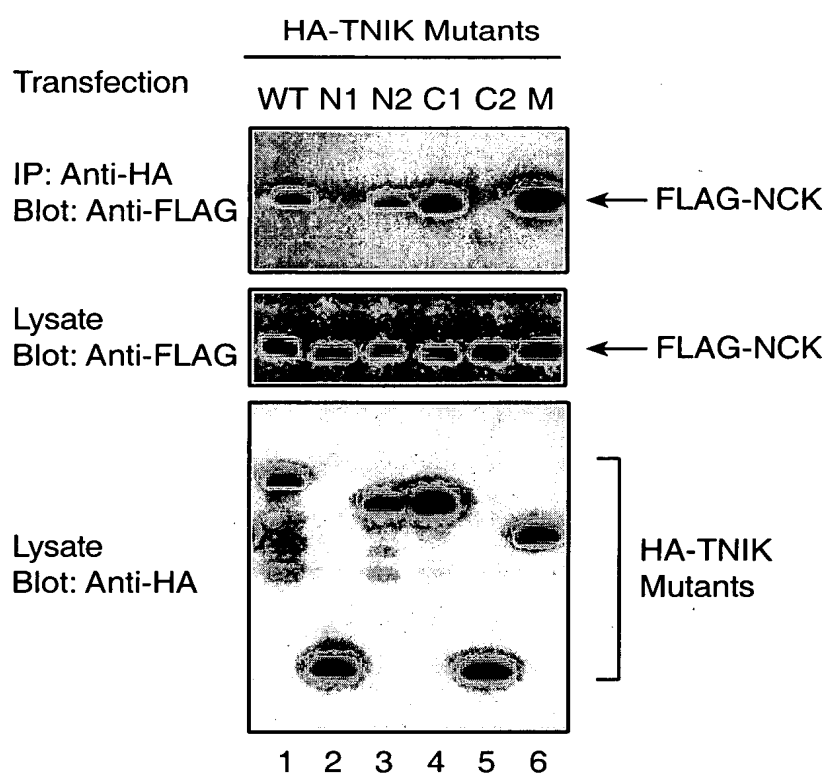


FIG._13

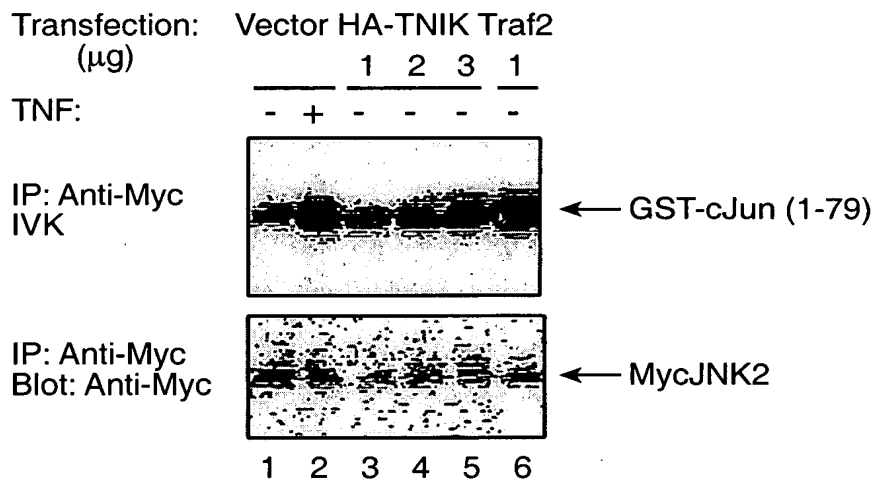


FIG._14

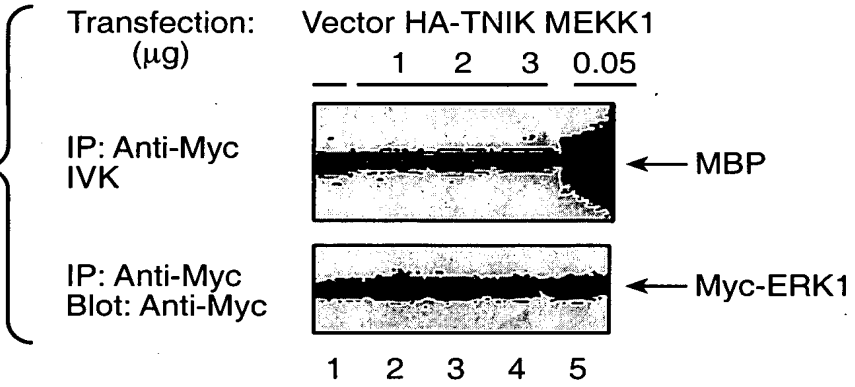


FIG._15

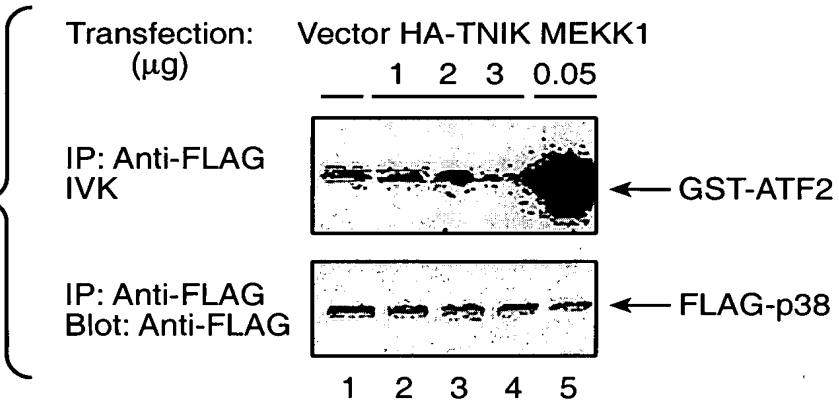
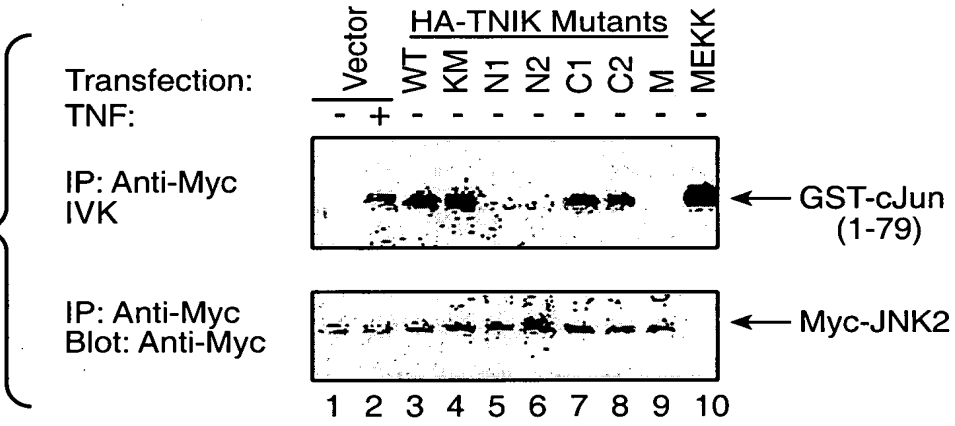


FIG._16



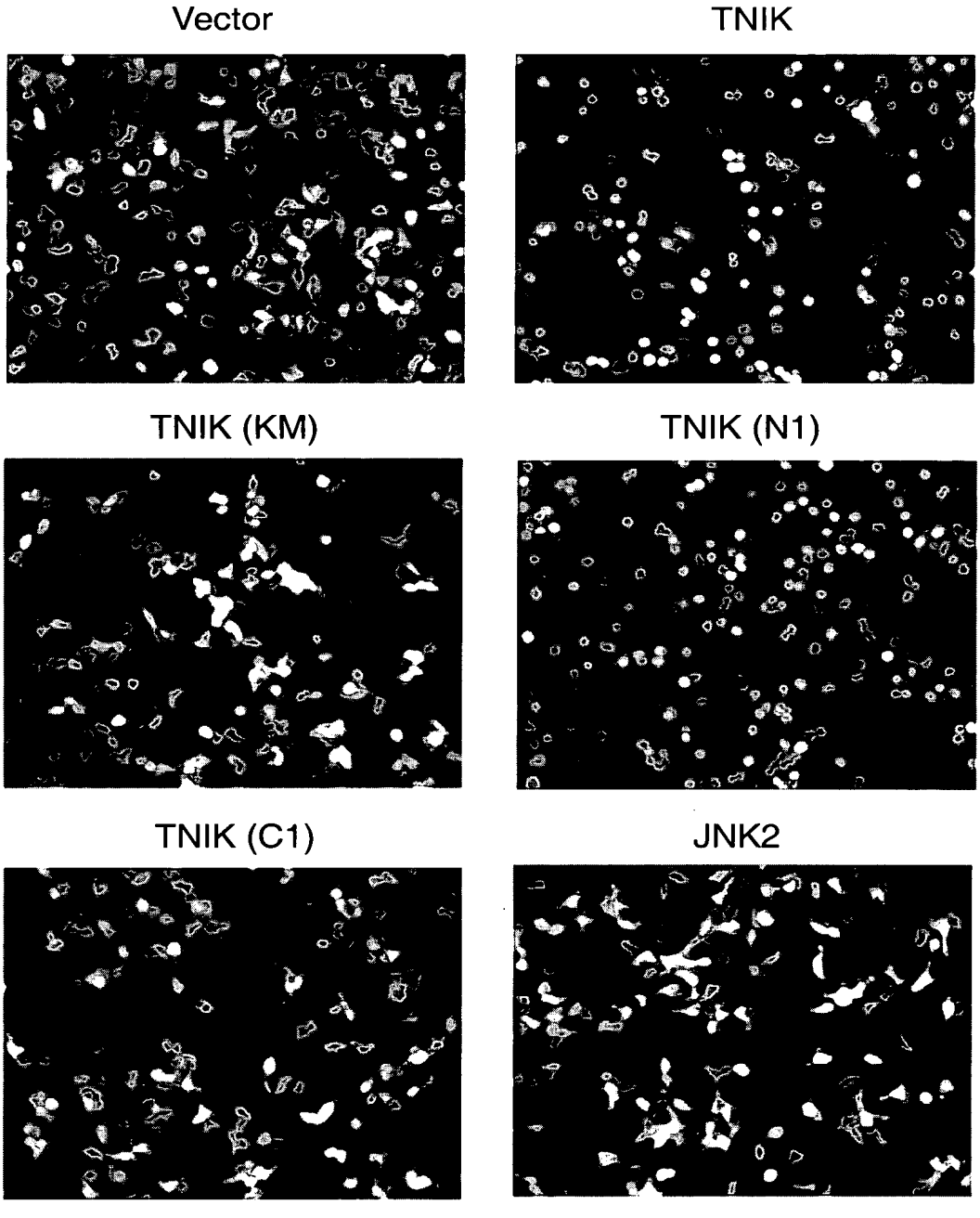


FIG._17

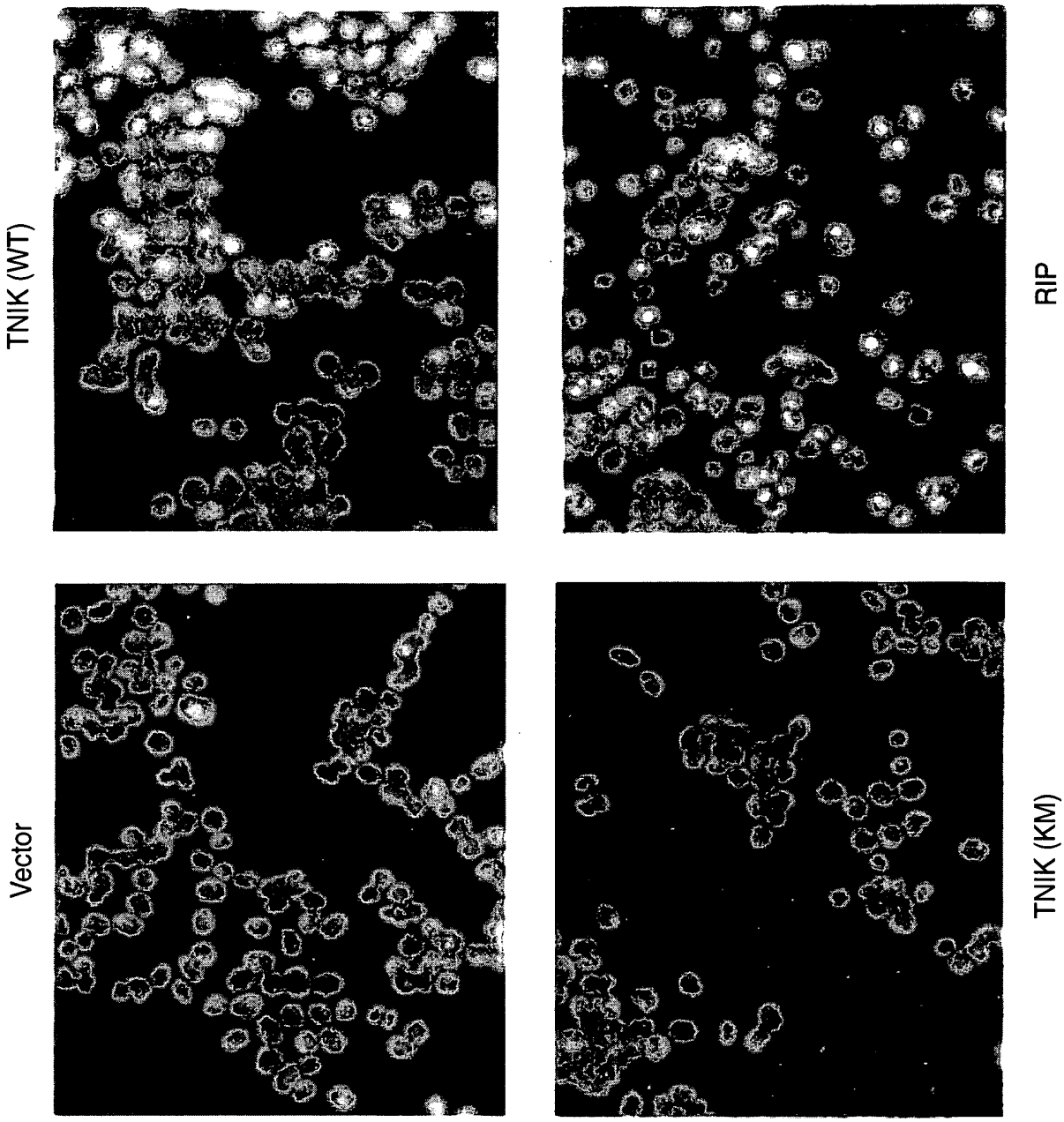


FIG._18

FIG._19

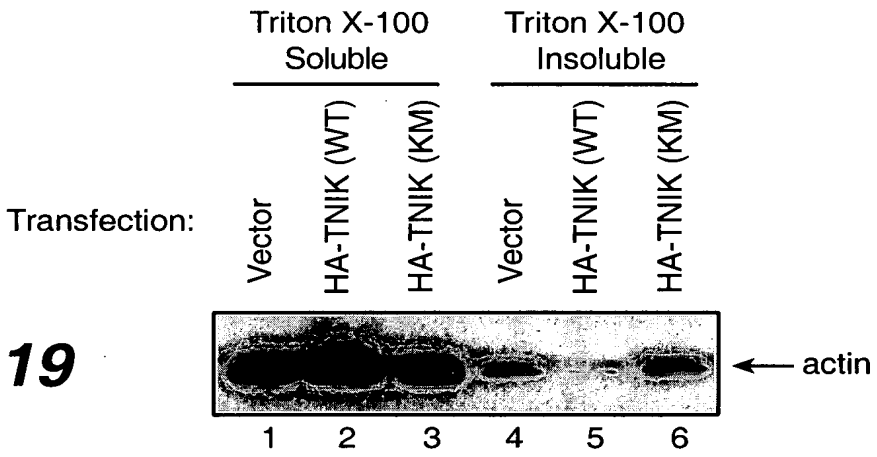
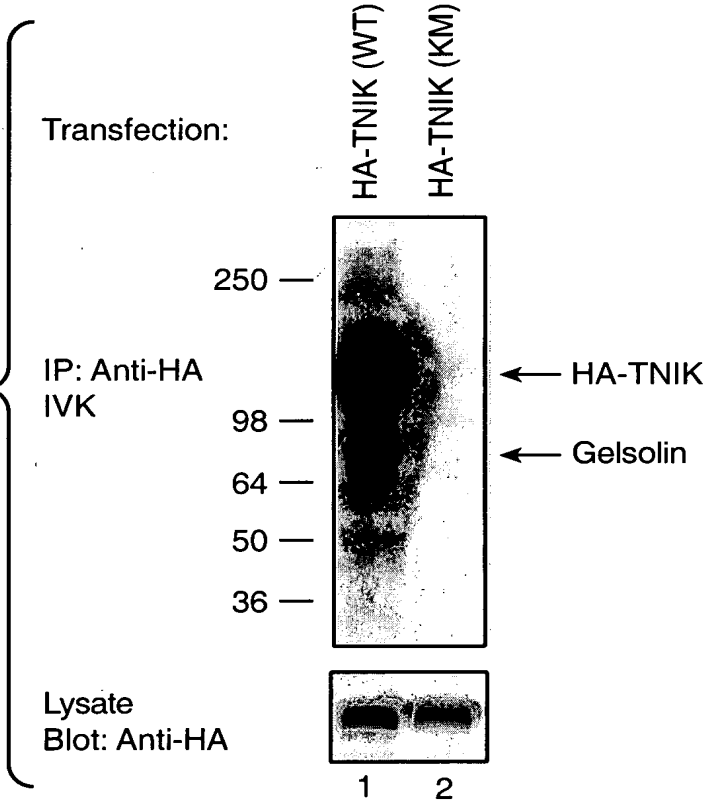


FIG._20



ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTGGCTCTGTCACCGACCTGATCAAGAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATACATCAGGCGACAG
TTAGAGGAGGAGCAGAGACAGTTAGAGATCTTGCAGCAGCAGCTACTGCATGAACAAGCTCTACTTCTGGAATAT
AAGCGCAAACAATTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTA
GTTTCCCTTCAGCATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATG
AGTCCTAGTGAGAAGCCAGCATGGGCCAAGGAGGTAGAAGAACGGTCAAGGCTCAACCGGCAAAGTTCCCCTGCC
ATGCCTCACAAGGTTGCCAACAGGATATCTGACCCCAACCTGCCCCCAAGGTCGGAGTCCTTCAGCATTAGTGGA
GTTCAGCCTGCTCGAACACCCCCCATGCTCAGACCAGTCGATCCCCAGATCCCACATCTGGTAGCTGTAAAATCC
CAGGGACCTGCCTTGACCGCCTCCCAGTCAGTGCACGAGCAGCCCACAAAGGGCCTCTCTGGGTTTCAGGAGGCT
CTGAACGTGACCTCCCACCGCGTGGAGATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCC
ACTCGCATTGAAAAGTTTGACCGAAGCTCTTGGTTACGACAGGAAGAAGACATTCCACCAAAGGTGCCTCAAAGA

FIG._21A

ACAACTTCTATATCCCCAGCATTAGCCAGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGA
TCTCAACCCATCAGAGCAAGCAACCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACC
AGCAGTGGCAGTTCCTCCAGCTCCAGCACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCA
CAAGCAGGATCCAGTGAACGCACCAGAGTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAG
CCTGCCAAGGTGAAACCAGAAGAATCCAGGGACATTACCCGGCCCAGTCGACCAGCTAGCTACAAAAAAGCTATA
GATGAGGATCTGACGGCATTAGCCAAAGAACTAAGAGAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAG
GTGACTGATTACTCCTCCTCCAGTGAGGAGTCAGAAAGTAGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACC
CATGATGGGACAGTGGCTGTCAGCGACATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTAC
AATGTGGGAATGGTGGGGACGCATGGGCTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAA
GGAACCTTGATGATTAGAGAGACGTCTGGAGAGAAGAAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGC
CACATCAACCTCCCTGACCTGGTGCAGCAGAGCCATTCTCCAGCTGGAACCCCGACTGAGGGACTGGGGCGCGTC
TCAACCCATTCCCAGGAGATGGACTCTGGGACTGAATATGGCATGGGGAGCAGCACCAAAGCCTCCTTCACCCCC
TTTGTGGACCCCAGAGTATACCAGACGTCTCCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCAGCT
CTGTTTACTAGCGAACTTCTTAGGCAAGAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTA
AACCCAACCAACATTCGGCCTCATAGCGACACACCAGAAATCAGAAAATACAAGAAACGATTCAACTCAGAAATA
CTTTGTGCAGCTCTGTGGGGTGTAAACCTTCTGGTGGGGACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGG
CAAGGCAAAGTCTATAATCTGATCAACCGGAGGCGATTTCAGCAGATGGATGTGCTAGAGGGACTGAATGTCCTT
GTGACAATTTCAGGAAAGAAGAATAAGCTACGAGTTTACTATCTTTCATGGTTAAGAAACAGAATACTACATAAT
GACCCAGAAGTAGAAAAGAAACAAGGCTGGATCACTGTTGGGGACTTGGAAGGCTGTATACATTATAAAGTTGTT
AAATATGAAAGGATCAAATTTTTGGTGATTGCCTTAAAGAATGCTGTGGAAATATATGCTTGGGCTCCTAAACCG
TATCATAAATTCATGGCATTTAAGTCTTTTGCAGATCTCCAGCACAAGCCTCTGCTAGTTGATCTCACGGTAGAA
GAAGGTCAAAGATTAAAGGTTATTTTTGGTTCACACACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCT
TATGATATCTACATACCATCTCATATTCAGGGCAATATCACTCCTCATGCTATTGTCATCTTGCCTAAAACAGAT
GGAATGGAAATGCTTGTTTGCTATGAGGATGAGGGGGTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTG
GTGCTCCAATGGGGAGAAATGCCCACGTCTGTGGCCTACATTCATTCCAATCAGATAATGGGCTGGGGCGAGAAA
GCTATTGAGATCCGGTCAGTGGAAACAGGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAG
TTTCTATGTGAAAGAAATGATAAGGTATTTTTTGCATCCGTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATG
ACCCTCAACAGAAATTCCATGATGAACTGGTAA

FIG._21B

ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTGGCTCTGTCACCGACCTGATCAAGAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATATAAGCGCAAACAA
TTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTAGTTTCCCTTCAG
CATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATGAGTCCTAGTGAG
AAGCCAGCATGGGCCAAGGAGGTAGAAGAACGGTCAAGGCTCAACCGGCAAAGTTCCCCTGCCATGCCTCACAAG
GTTGCCAACAGGATATCTGACCCCAACCTGCCCCCAAGGTCGGAGTCCTTCAGCATTAGTGGAGTTCAGCCTGCT
CGAACACCCCCCATGCTCAGACCAGTCGATCCCCAGATCCCACATCTGGTAGCTGTAAAATCCCAGGGACCTGCC
TTGACCGCCTCCCAGTCAGTGCACGAGCAGCCCACAAAGGGCCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACC
TCCCACCGCGTGGAGATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCCACTCGCATTGAA
AAGTTTGACCGAAGCTCTTGGTTACGACAGGAAGAAGACATTCCACCAAAGGTGCCTCAAAGAACAACTTCTATA
TCCCCAGCATTAGCCAGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATC
AGAGCAAGCAACCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACCAGCAGTGGCAGT

FIG._22A

TCCCCAGCATTAGCCAGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATC
AGAGCAAGCAACCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACCAGCAGTGGCAGT
TCCTCCAGCTCCAGCACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCACAAGCAGGATCC
AGTGAACGCACCAGAGTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTG
AAACCAGAAGAATCCAGGGACATTACCCGGCCCAGTCGACCAGCTAGCTACAAAAAAGCTATAGATGAGGATCTG
ACGGCATTAGCCAAAGAACTAAGAGAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAGGTGACTGATTAC
TCCTCCTCCAGTGAGGAGTCAGAAAGTAGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACCCATGATGGGACA
GTGGCTGTCAGCGACATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATG
GTGGGGACGCATGGGCTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAAGGAACCTTGATG
ATTAGAGAGACGTCTGGAGAGAAGAAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTC
CCTGACCTGGTGCAGCAGAGCCATTCTCCAGCTGGAACCCCGACTGAGGGACTGGGGCGCGTCTCAACCCATTCC
CAGGAGATGGACTCTGGGACTGAATATGGCATGGGGAGCAGCACCAAAGCCTCCTTCACCCCCTTTGTGGACCCC
AGAGTATACCAGACGTCTCCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCAGCTCTGTTTACTAGC
GAACTTCTTAGGCAAGAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTAAACCCAACCAAC
ATTCGGCCTCATAGCGACACACCAGAAATCAGAAAATACAAGAAACGATTCAACTCAGAAATACTTTGTGCAGCT
CTGTGGGGTGTAAACCTTCTGGTGGGGACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAAGTC
TATAATCTGATCAACCGGAGGCGATTTCAGCAGATGGATGTGCTAGAGGGACTGAATGTCCTTGTGACAATTTCA
GGAAAGAAGAATAAGCTACGAGTTTACTATCTTTCATGGTTAAGAAACAGAATACTACATAATGACCCAGAAGTA
GAAAAGAAACAAGGCTGGATCACTGTTGGGGACTTGGAAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGG
ATCAAATTTTTGGTGATTGCCTTAAAGAATGCTGTGGAAATATATGCTTGGGCTCCTAAACCGTATCATAAATTC
ATGGCATTTAAGTCTTTTGCAGATCTCCAGCACAAGCCTCTGCTAGTTGATCTCACGGTAGAAGAAGGTCAAAGA
TTAAAGGTTATTTTTGGTTCACACACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTAC
ATACCATCTCATATTCAGGGCAATATCACTCCTCATGCTATTGTCATCTTGCCTAAAACAGATGGAATGGAAATG
CTTGTTTGCTATGAGGATGAGGGGGTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGG
GGAGAAATGCCCACGTCTGTGGCCTACATTCATTCCAATCAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATC
CGGTCAGTGGAAACAGGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAA
AGAAATGATAAGGTATTTTTTGCATCCGTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATGACCCTCAACAGA
AATTCCATGATGAACTGGTAA

FIG._22B

ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTGGCTCTGTCACCGACCTGATCAAGAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATACATCAGGCGACAG
TTAGAGGAGGAGCAGAGACAGTTAGAGATCTTGCAGCAGCAGCTACTGCATGAACAAGCTCTACTTCTGGAATAT
AAGCGCAAACAATTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTA
GTTTCCCTTCAGCATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATG
AGTCCTAGTGAGAAGCCAGCATGGGCCAAGGAGATCCCACATCTGGTAGCTGTAAAATCCCAGGGACCTGCCTTG
ACCGCCTCCCAGTCAGTGCACGAGCAGCCCACAAAGGGCCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACCTCC
CACCGCGTGGAGATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCCACTCGCATTGAAAAG
TTTGACCGAAGCTCTTGGTTACGACAGGAAGAAGACATTCCACCAAAGGTGCCTCAAAGAACAACTTCTATATCC
CCAGCATTAGCCAGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATCAGA
GCAAGCAACCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACCAGCAGTGGCAGTTCC

FIG._23A

TCCAGCTCCAGCACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCACAAGCAGGATCCAGT
GAACGCACCAGAGTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTGAAA
CCAGAAGAATCCAGGGACATTACCCGGCCCAGTCGACCAGCTAGCTACAAAAAAGCTATAGATGAGGATCTGACG
GCATTAGCCAAAGAACTAAGAGAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAGGTGACTGATTACTCC
TCCTCCAGTGAGGAGTCAGAAAGTAGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACCCATGATGGGACAGTG
GCTGTCAGCGACATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTG
GGGACGCATGGGCTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAAGGAACCTTGATGATT
AGAGAGACGTCTGGAGAGAAGAAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCT
GACCTGGTGCAGCAGAGCCATTCTCCAGCTGGAACCCCGACTGAGGGACTGGGGCGCGTCTCAACCCATTCCCAG
GAGATGGACTCTGGGACTGAATATGGCATGGGGAGCAGCACCAAAGCCTCCTTCACCCCCTTTGTGGACCCCAGA
GTATACCAGACGTCTCCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCAGCTCTGTTTACTAGCGAA
CTTCTTAGGCAAGAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTAAACCCAACCAACATT
CGGCCTCATAGCGACACACCAGAAATCAGAAAATACAAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTG
TGGGGTGTAAACCTTCTGGTGGGGACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAAGTCTAT
AATCTGATCAACCGGAGGCGATTTCAGCAGATGGATGTGCTAGAGGGACTGAATGTCCTTGTGACAATTTCAGGA
AAGAAGAATAAGCTACGAGTTTACTATCTTTCATGGTTAAGAAACAGAATACTACATAATGACCCAGAAGTAGAA
AAGAAACAAGGCTGGATCACTGTTGGGGACTTGGAAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGGATC
AAATTTTTGGTGATTGCCTTAAAGAATGCTGTGGAAATATATGCTTGGGCTCCTAAACCGTATCATAAATTCATG
GCATTTAAGTCTTTTGCAGATCTCCAGCACAAGCCTCTGCTAGTTGATCTCACGGTAGAAGAAGGTCAAAGATTA
AAGGTTATTTTTGGTTCACACACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATA
CCATCTCATATTCAGGGCAATATCACTCCTCATGCTATTGTCATCTTGCCTAAAACAGATGGAATGGAAATGCTT
GTTTGCTATGAGGATGAGGGGGTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGGA
GAAATGCCCACGTCTGTGGCCTACATTCATTCCAATCAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATCCGG
TCAGTGGAAACAGGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGA
AATGATAAGGTATTTTTTGCATCCGTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATGACCCTCAACAGAAAT
TCCATGATGAACTGGTAA

FIG._23B

ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTCTGTCACCGACCTGATCAAGAACACACAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATACATCAGGCGACAG
TTAGAGGAGGAGCAGAGACAGTTAGAGATCTTGCAGCAGCTACTGCATGAACAAGCTCTACTTCTGGAATAT
AAGCGCAAACAATTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTA
GTTTCCCTTCAGCATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATG
AGTCCTAGTGAGAAGCCAGCATGGGCCAAGGAGGTAGAAGAACGGTCAAGGCTCAACCGGCAAAGTTCCCCTGCC
ATGCCTCACAAGGTTGCCAACAGGATATCTGACCCCAACCTGCCCCCAAGGTCGGAGTCCTTCAGCATTAGTGGA
GTTCAGCCTGCTCGAACACCCCCCATGCTCAGACCAGTCGATCCCCAGATCCCACATCTGGTAGCTGTGTAAAATCC
CAGGGACCTGCCTTGACCGCCTCCCAGTCAGTGCACGAGCAGCCCACACAAGGGCCTCTCTGGGTTTCAGGAGGCT
CTGAACGTGACCTCCCACCGCGTGGAGATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCCTCCCC
ACTCGCATTGAAAAGTTTGACCGAAGCTCTTGGTTACGACAGGAAGAGACATTCCACCAAGGTGCCTCAAAGA
ACAACTTCTATATCCCCAGCATTAGCCAGAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGA

FIG._24A

TCTCAACCCATCAGAGCAAGCAACCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACC
AGCAGTGGCAGTTCCTCCAGCTCCAGCACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCA
CAAGCAGGATCCAGTGAACGCACCAGAGTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAG
CCTGCCAAGGTGAAACCAGAAGAATCCAGGGACATTACCCGGCCCAGTCGACCAGCTGATCTGACGGCATTAGCC
AAAGAACTAAGAGAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAGGTGACTGATTACTCCTCCTCCAGT
GAGGAGTCAGAAAGTAGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACCCATGATGGGACAGTGGCTGTCAGC
GACATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTGGGGACGCAT
GGGCTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAAGGAACCTTGATGATTAGAGAGACG
TCTGGAGAGAAGAAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTG
CAGCAGAGCCATTCTCCAGCTGGAACCCCGACTGAGGGACTGGGGCGCGTCTCAACCCATTCCCAGGAGATGGAC
TCTGGGACTGAATATGGCATGGGGAGCAGCACCAAAGCCTCCTTCACCCCCTTTGTGGACCCCAGAGTATACCAG
ACGTCTCCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCAGCTCTGTTTACTAGCGAACTTCTTAGG
CAAGAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTAAACCCAACCAACATTCGGCCTCAT
AGCGACACACCAGAAATCAGAAAATACAAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTGTGGGGTGTA
AACCTTCTGGTGGGGACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAAGTCTATAATCTGATC
AACCGGAGGCGATTTCAGCAGATGGATGTGCTAGAGGGACTGAATGTCCTTGTGACAATTTCAGGAAAGAAGAAT
AAGCTACGAGTTTACTATCTTTCATGGTTAAGAAACAGAATACTACATAATGACCCAGAAGTAGAAAAGAAACAA
GGCTGGATCACTGTTGGGGACTTGGAAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGGATCAAATTTTTG
GTGATTGCCTTAAAGAATGCTGTGGAAATATATGCTTGGGCTCCTAAACCGTATCATAAATTCATGGCATTTAAG
TCTTTTGCAGATCTCCAGCACAAGCCTCTGCTAGTTGATCTCACGGTAGAAGAAGGTCAAAGATTAAAGGTTATT
TTTGGTTCACACACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCATCTCAT
ATTCAGGGCAATATCACTCCTCATGCTATTGTCATCTTGCCTAAAACAGATGGAATGGAAATGCTTGTTTGCTAT
GAGGATGAGGGGGTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGGAGAAATGCCC
ACGTCTGTGGCCTACATTCATTCCAATCAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAA
ACAGGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAAG
GTATTTTTTGCATCCGTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATGACCCTCAACAGAAATTCCATGATG
AACTGGTAA

FIG._24B

ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTGGCTCTGTCACCGACCTGATCAAGAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATATAAGCGCAAACAA
TTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTAGTTTCCCTTCAG
CATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATGAGTCCTAGTGAG
AAGCCAGCATGGGCCAAGGAGATCCCACATCTGGTAGCTGTAAAATCCCAGGGACCTGCCTTGACCGCCTCCCAG
TCAGTGCACGAGCAGCCCACAAAGGGCCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACCTCCCACCGCGTGGAG
ATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCCACTCGCATTGAAAAGTTTGACCGAAGC
TCTTGGTTACGACAGGAAGAAGACATTCCACCAAAGGTGCCTCAAAGAACAACTTCTATATCCCCAGCATTAGCC
AGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATCAGAGCAAGCAACCCT
GATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACCAGCAGTGGCAGTTCCTCCAGCTCCAGC
ACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCACAAGCAGGATCCAGTGAACGCACCAGA

FIG._25A

GTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTGAAACCAGAAGAATCC
AGGGACATTACCCGGCCCAGTCGACCAGCTAGCTACAAAAAAGCTATAGATGAGGATCTGACGGCATTAGCCAAA
GAACTAAGAGAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAGGTGACTGATTACTCCTCCTCCAGTGAG
GAGTCAGAAAGTAGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACCCATGATGGGACAGTGGCTGTCAGCGAC
ATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTGGGGACGCATGGG
CTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAAGGAACCTTGATGATTAGAGAGACGTCT
GGAGAGAAGAAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTGCAG
CAGAGCCATTCTCCAGCTGGAACCCCGACTGAGGGACTGGGGCGCGTCTCAACCCATTCCCAGGAGATGGACTCT
GGGACTGAATATGGCATGGGGAGCAGCACCAAAGCCTCCTTCACCCCCTTTGTGGACCCCAGAGTATACCAGACG
TCTCCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCAGCTCTGTTTACTAGCGAACTTCTTAGGCAA
GAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTAAACCCAACCAACATTCGGCCTCATAGC
GACACACCAGAAATCAGAAAATACAAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTGTGGGGTGTAAAC
CTTCTGGTGGGGACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAAGTCTATAATCTGATCAAC
CGGAGGCGATTTCAGCAGATGGATGTGCTAGAGGGACTGAATGTCCTTGTGACAATTTCAGGAAAGAAGAATAAG
CTACGAGTTTACTATCTTTCATGGTTAAGAAACAGAATACTACATAATGACCCAGAAGTAGAAAAGAAACAAGGC
TGGATCACTGTTGGGGACTTGGAAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGGATCAAATTTTTGGTG
ATTGCCTTAAAGAATGCTGTGGAAATATATGCTTGGGCTCCTAAACCGTATCATAAATTCATGGCATTTAAGTCT
TTTGCAGATCTCCAGCACAAGCCTCTGCTAGTTGATCTCACGGTAGAAGAAGGTCAAAGATTAAAGGTTATTTTT
GGTTCACACACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCATCTCATATT
CAGGGCAATATCACTCCTCATGCTATTGTCATCTTGCCTAAAACAGATGGAATGGAAATGCTTGTTTGCTATGAG
GATGAGGGGGTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGGAGAAATGCCCACG
TCTGTGGCCTACATTCATTCCAATCAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAAACA
GGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAAGGTA
TTTTTTGCATCCGTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATGACCCTCAACAGAAATTCCATGATGAAC
TGGTAA

FIG._25B

ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTGGCTCTGTCACCGACCTGATCAAGAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATATAAGCGCAAACAA
TTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTAGTTTCCCTTCAG
CATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATGAGTCCTAGTGAG
AAGCCAGCATGGGCCAAGGAGGTAGAAGAACGGTCAAGGCTCAACCGGCAAAGTTCCCCTGCCATGCCTCACAAG
GTTGCCAACAGGATATCTGACCCCAACCTGCCCCCAAGGTCGGAGTCCTTCAGCATTAGTGGAGTTCAGCCTGCT
CGAACACCCCCCATGCTCAGACCAGTCGATCCCCAGATCCCACATCTGGTAGCTGTAAAATCCCAGGGACCTGCC
TTGACCGCCTCCCAGTCAGTGCACGAGCAGCCCACAAAGGGCCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACC
TCCCACCGCGTGGAGATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCCACTCGCATTGAA
AAGTTTGACCGAAGCTCTTGGTTACGACAGGAAGAAGACATTCCACCAAAGGTGCCTCAAAGAACAACTTCTATA
TCCCCAGCATTAGCCAGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATC

FIG._26A

AGAGCAAGCAACCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACCAGCAGTGGCAGT
TCCTCCAGCTCCAGCACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCACAAGCAGGATCC
AGTGAACGCACCAGAGTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTG
AAACCAGAAGAATCCAGGGACATTACCCGGCCCAGTCGACCAGCTGATCTGACGGCATTAGCCAAAGAACTAAGA
GAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAGGTGACTGATTACTCCTCCTCCAGTGAGGAGTCAGAA
AGTAGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACCCATGATGGGACAGTGGCTGTCAGCGACATACCCAGA
CTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTGGGGACGCATGGGCTGGAGACC
TCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAAGGAACCTTGATGATTAGAGAGACGTCTGGAGAGAAG
AAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTGCAGCAGAGCCAT
TCTCCAGCTGGAACCCCGACTGAGGGACTGGGGCGCGTCTCAACCCATTCCCAGGAGATGGACTCTGGGACTGAA
TATGGCATGGGGAGCAGCACCAAAGCCTCCTTCACCCCCTTTGTGGACCCCAGAGTATACCAGACGTCTCCCACT
GATGAAGATGAAGAGGATGAGGAATCATCAGCCGCAGCTCTGTTTACTAGCGAACTTCTTAGGCAAGAACAGGCC
AAACTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTAAACCCAACCAACATTCGGCCTCATAGCGACACACCA
GAAATCAGAAAATACAAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTGTGGGGTGTAAACCTTCTGGTG
GGGACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAAGTCTATAATCTGATCAACCGGAGGCGA
TTTCAGCAGATGGATGTGCTAGAGGGACTGAATGTCCTTGTGACAATTTCAGGAAAGAAGAATAAGCTACGAGTT
TACTATCTTTCATGGTTAAGAAACAGAATACTACATAATGACCCAGAAGTAGAAAAGAAACAAGGCTGGATCACT
GTTGGGGACTTGGAAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGGATCAAATTTTTGGTGATTGCCTTA
AAGAATGCTGTGGAAATATATGCTTGGGCTCCTAAACCGTATCATAAATTCATGGCATTTAAGTCTTTTGCAGAT
CTCCAGCACAAGCCTCTGCTAGTTGATCTCACGGTAGAAGAAGGTCAAAGATTAAAGGTTATTTTTGGTTCACAC
ACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCATCTCATATTCAGGGCAAT
ATCACTCCTCATGCTATTGTCATCTTGCCTAAAACAGATGGAATGGAAATGCTTGTTTGCTATGAGGATGAGGGG
GTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGGAGAAATGCCCACGTCTGTGGCC
TACATTCATTCCAATCAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAAACAGGACATTTG
GATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAAGGTATTTTTTGCA
TCCGTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATGACCCTCAACAGAAATTCCATGATGAACTGGTAA>

FIG._26B

ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTGGCTCTGTCACCGACCTGATCAAGAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATACATCAGGCGACAG
TTAGAGGAGGAGCAGAGACAGTTAGAGATCTTGCAGCAGCAGCTACTGCATGAACAAGCTCTACTTCTGGAATAT
AAGCGCAAACAATTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTA
GTTTCCCTTCAGCATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATG
AGTCCTAGTGAGAAGCCAGCATGGGCCAAGGAGATCCCACATCTGGTAGCTGTAAAATCCCAGGGACCTGCCTTG
ACCGCCTCCCAGTCAGTGCACGAGCAGCCCACAAAGGGCCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACCTCC
CACCGCGTGGAGATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCCACTCGCATTGAAAAG
TTTGACCGAAGCTCTTGGTTACGACAGGAAGAAGACATTCCACCAAAGGTGCCTCAAAGAACAACTTCTATATCC
CCAGCATTAGCCAGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATCAGA
GCAAGCAACCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACCAGCAGTGGCAGTTCC

FIG._27A

TCCAGCTCCAGCACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCACAAGCAGGATCCAGT
GAACGCACCAGAGTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTGAAA
CCAGAAGAATCCAGGGACATTACCCGGCCCAGTCGACCAGCTGATCTGACGGCATTAGCCAAAGAACTAAGAGAA
CTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAGGTGACTGATTACTCCTCCTCCAGTGAGGAGTCAGAAAGT
AGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACCCATGATGGGACAGTGGCTGTCAGCGACATACCCAGACTG
ATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTGGGGACGCATGGGCTGGAGACCTCT
CATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAAGGAACCTTGATGATTAGAGAGACGTCTGGAGAGAAGAAG
CGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTGCAGCAGAGCCATTCT
CCAGCTGGAACCCCGACTGAGGGACTGGGGCGCGTCTCAACCCATTCCCAGGAGATGGACTCTGGGACTGAATAT
GGCATGGGGAGCAGCACCAAAGCCTCCTTCACCCCCTTTGTGGACCCCAGAGTATACCAGACGTCTCCCACTGAT
GAAGATGAAGAGGATGAGGAATCATCAGCCGCAGCTCTGTTTACTAGCGAACTTCTTAGGCAAGAACAGGCCAAA
CTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTAAACCCAACCAACATTCGGCCTCATAGCGACACACCAGAA
ATCAGAAAATACAAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTGTGGGGTGTAAACCTTCTGGTGGGG
ACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAAGTCTATAATCTGATCAACCGGAGGCGATTT
CAGCAGATGGATGTGCTAGAGGGACTGAATGTCCTTGTGACAATTTCAGGAAAGAAGAATAAGCTACGAGTTTAC
TATCTTTCATGGTTAAGAAACAGAATACTACATAATGACCCAGAAGTAGAAAAGAAACAAGGCTGGATCACTGTT
GGGGACTTGGAAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGGATCAAATTTTTGGTGATTGCCTTAAAG
AATGCTGTGGAAATATATGCTTGGGCTCCTAAACCGTATCATAAATTCATGGCATTTAAGTCTTTTGCAGATCTC
CAGCACAAGCCTCTGCTAGTTGATCTCACGGTAGAAGAAGGTCAAAGATTAAAGGTTATTTTTGGTTCACACACT
GGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCATCTCATATTCAGGGCAATATC
ACTCCTCATGCTATTGTCATCTTGCCTAAAACAGATGGAATGGAAATGCTTGTTTGCTATGAGGATGAGGGGGTG
TATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGGAGAAATGCCCACGTCTGTGGCCTAC
ATTCATTCCAATCAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAAACAGGACATTTGGAT
GGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAAGGTATTTTTTGCATCC
GTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATGACCCTCAACAGAAATTCCATGATGAACTGGTAA

FIG._27B

ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTTGTGGTGCTGGCTCTGTCACCGACCTGATCAAGAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAGTTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTCATTGGAACTCCCTACTGGATGGCACCAGAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAGGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAAGTGGTCAAAAAAATTCCAGTCATTTATTGAGAGCTGCTTGGTAAAGAATCACAGC
CAGCGACCAGCAACAGAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAGAAGCGAGGAGAAAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAATGACTCAGGAGAGCCCAGCTCCATCCTGAATCTGCCAGGGGAGTCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAATGAGGAGCACAAGCGGCAGCTGCTGGCCGAGCGTCAGAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGCGGCTGGAGGAGCAACAAAGGCGAGAGAAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGGAGGAGGAGAGGAGGCGTGCGGAGCATGAACAGGAATATAAGCGCAAACAA
TTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTAGTTTCCCTTCAG
CATCAGCGGCAGGAGCAGAGGCCTGTGGAGAAGAAGCCACTGTACCATTACAAAGAAGGAATGAGTCCTAGTGAG
AAGCCAGCATGGGCCAAGGAGATCCCACATCTGGTAGCTGTAAAATCCCAGGGACCTGCCTTGACCGCCTCCCAG
TCAGTGCACGAGCAGCCCACAAAGGGCCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACCTCCCACCGCGTGGAG
ATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCCACTCGCATTGAAAAGTTTGACCGAAGC
TCTTGGTTACGACAGGAAGAAGACATTCCACCAAAGGTGCCTCAAAGAACAACTTCTATATCCCCAGCATTAGCC
AGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATCAGAGCAAGCAACCCT
GATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCCTTGCAGAGGACCAGCAGTGGCAGTTCCTCCAGCTCCAGC
ACCCCTAGCTCCCAGCCCAGCTCCCAAGGAGGCTCCCAGCCTGGATCACAAGCAGGATCCAGTGAACGCACCAGA

FIG._28A

GTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTGAAACCAGAAGAATCC
AGGGACATTACCCGGCCCAGTCGACCAGCTGATCTGACGGCATTAGCCAAAGAACTAAGAGAACTCCGGATTGAA
GAAACAAACCGCCCAATGAAGAAGGTGACTGATTACTCCTCCTCCAGTGAGGAGTCAGAAAGTAGCGAGGAAGAG
GAGGAAGATGGAGAGAGCGAGACCCATGATGGGACAGTGGCTGTCAGCGACATACCCAGACTGATACCAACAGGA
GCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTGGGGACGCATGGGCTGGAGACCTCTCATGCGGACAGT
TTCAGCGGCAGTATTTCAAGAGAAGGAACCTTGATGATTAGAGAGACGTCTGGAGAGAAGAAGCGATCTGGCCAC
AGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTGCAGCAGAGCCATTCTCCAGCTGGAACC
CCGACTGAGGGACTGGGGCGCGTCTCAACCCATTCCCAGGAGATGGACTCTGGGACTGAATATGGCATGGGGAGC
AGCACCAAAGCCTCCTTCACCCCCTTTGTGGACCCCAGAGTATACCAGACGTCTCCCACTGATGAAGATGAAGAG
GATGAGGAATCATCAGCCGCAGCTCTGTTTACTAGCGAACTTCTTAGGCAAGAACAGGCCAAACTCAATGAAGCA
AGAAAGATTTCGGTGGTAAATGTAAACCCAACCAACATTCGGCCTCATAGCGACACACCAGAAATCAGAAAATAC
AAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTGTGGGGTGTAAACCTTCTGGTGGGGACTGAAAATGGC
CTGATGCTTTTGGACCGAAGTGGGCAAGGCAAAGTCTATAATCTGATCAACCGGAGGCGATTTCAGCAGATGGAT
GTGCTAGAGGGACTGAATGTCCTTGTGACAATTTCAGGAAAGAAGAATAAGCTACGAGTTTACTATCTTTCATGG
TTAAGAAACAGAATACTACATAATGACCCAGAAGTAGAAAAGAAACAAGGCTGGATCACTGTTGGGGACTTGGAA
GGCTGTATACATTATAAAGTTGTTAAATATGAAAGGATCAAATTTTTGGTGATTGCCTTAAAGAATGCTGTGGAA
ATATATGCTTGGGCTCCTAAACCGTATCATAAATTCATGGCATTTAAGTCTTTTGCAGATCTCCAGCACAAGCCT
CTGCTAGTTGATCTCACGGTAGAAGAAGGTCAAAGATTAAAGGTTATTTTTGGTTCACACACTGGTTTCCATGTA
ATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCATCTCATATTCAGGGCAATATCACTCCTCATGCT
ATTGTCATCTTGCCTAAAACAGATGGAATGGAAATGCTTGTTTGCTATGAGGATGAGGGGGTGTATGTAAACACC
TATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGGAGAAATGCCCACGTCTGTGGCCTACATTCATTCCAAT
CAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAAACAGGACATTTGGATGGAGTATTTATG
CATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAAGGTATTTTTTGCATCCGTGCGATCTGGA
GGAAGTAGCCAAGTGTTTTTCATGACCCTCAACAGAAATTCCATGATGAACTGGTAA

FIG._28B

Application No.: 09/645,456
Applicant: Fu et al.
Title: NOVEL HUMAN GERMINAL CENTER KINASE CELL CYCLE PROTEINS etc.
Sheet 28 of 35

```
1     MASDSPARSLDEIDLSALRDPAGIFELVELVGNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61    DEEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMEFCGAGSVTDLIKNT
121   KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENAEVKLVDFGVSAQLDR
181   TVGRRNTFIGTPYWMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241   ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301   QLKDHIDRTKKKRGEKDETEYEYSGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361   NKERSEALRRQQLEQQQRENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQQE
421   REQRRHYEEQMRREEERRRAEHEQEYKRKQLEEQRQAERLQRQLKQERDYLVSLQHQRQE
481   QRPVEKKPLYHYKEGMSPSEKPAWAKEVEERSRLNRQSSPAMPHKVANRISDPNLPPRSE
541   SFSISGVQPARTPPMLRPVDPQIPHLVAVKSQGPALTASQSVHEQPTKGLSGFQEALNVT
601   SHRVEMPRQNSDPTSENPPLPTRIEKFDRSSWLRQEEDIPPKVPQRTTSISPALARKNSP
661   GNGSALGPRLGSQPIRASNPDLRRTEPILESPLQRTSSGSSSSSSTPSSQPSSQGGSQPG
721   SQAGSSERTRVRANSKSEGSPVLPHEPAKVKPEESRDITRPSRPASYKKAIDEDLTALAK
781   ELRELRIEETNRPMKKVTDYSSSSEESESSEEEEEDGESETHDGTVAVSDIPRLIPTGAP
841   GSNEQYNVGMVGTHGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFAGHINL
901   PDLVQQSHSPAGTPTEGLGRVSTHSQEMDSGTEYGMGSSTKASFTPFVDPRVYQTSPTDE
961   DEEDEESSAAALFTSELLRQEQAKLNEARKISVVNVNPTNIRPHSDTPEIRKYKKRFNSE
1021  ILCAALWGVNLLVGTENGLMLLDRSGQGKVYNLINRRRFQQMDVLEGLNVLVTISGKKNK
1081  LRVYYLSWLRNRILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIY
1141  AWAPKPYHKFMAFKSFADLQHKPLLVDLTVEEGQRLKVIFGSHTGFHVIDVDSGNSYDIY
1201  IPSHIQGNITPHAIVILPKTDGMEMLVCYEDEGVYVNTYGRITKDVVLQWGEMPTSVAYI
1261  HSNQIMGWGEKAIEIRSVETGHLDGVFMHKRAQRLKFLCERNDKVFFASVRSGGSSQVFF
1321  MTLNRNSMMNWZ
```

FIG._29

```
1    MASDSPARSLDEIDLSALRDPAGIFELVELVGNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61   DEEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMEFCGAGSVTDLIKNT
121  KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENAEVKLVDFGVSAQLDR
181  TVGRRNTFIGTPYWMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241  ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301  QLKDHIDRTKKKRGEKDETEYEYSGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361  NKERSEALRRQQLEQQQRENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQQE
421  REQRRHYEEQMRREEERRRAEHEQEYIRRQLEEEQRQLEILQQQLLHEQALLLEYKRKQL
481  EEQRQAERLQRQLKQERDYLVSLQHQRQEQRPVEKKPLYHYKEGMSPSEKPAWAKEIPHL
541  VAVKSQGPALTASQSVHEQPTKGLSGFQEALNVTSHRVEMPRQNSDPTSENPPLPTRIEK
601  FDRSSWLRQEEDIPPKVPQRTTSISPALARKNSPGNGSALGPRLGSQPIRASNPDLRRTE
661  PILESPLQRTSSGSSSSSSTPSSQPSSQGGSQPGSQAGSSERTRVRANSKSEGSPVLPHE
721  PAKVKPEESRDITRPSRPASYKKAIDEDLTALAKELRELRIEETNRPMKKVTDYSSSSEE
781  SESSEEEEEDGESETHDGTVAVSDIPRLIPTGAPGSNEQYNVGMVGTHGLETSHADSFSG
841  SISREGTLMIRETSGEKKRSGHSDSNGFAGHINLPDLVQQSHSPAGTPTEGLGRVSTHSQ
901  EMDSGTEYGMGSSTKASFTPFVDPRVYQTSPTDEDEEDEESSAAALFTSELLRQEQAKLN
961  EARKISVVNVNPTNIRPHSDTPEIRKYKKRFNSEILCAALWGVNLLVGTENGLMLLDRSG
1021 QGKVYNLINRRRFQQMDVLEGLNVLVTISGKKNKLRVYYLSWLRNRILHNDPEVEKKQGW
1081 ITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIYAWAPKPYHKFMAFKSFADLQHKPLLV
1141 DLTVEEGQRLKVIFGSHTGFHVIDVDSGNSYDIYIPSHIQGNITPHAIVILPKTDGMEML
1201 VCYEDEGVYVNTYGRITKDVVLQWGEMPTSVAYIHSNQIMGWGEKAIEIRSVETGHLDGV
1261 FMHKRAQRLKFLCERNDKVFFASVRSGGSSQVFFMTLNRNSMMNWZ
```

FIG._30

```
1    MASDSPARSLDEIDLSALRDPAGIFELVELVGNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61   DEEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMEFCGAGSVTDLIKNT
121  KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENAEVKLVDFGVSAQLDR
181  TVGRRNTFIGTPYWMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241  ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301  QLKDHIDRTKKKRGEKDETEYEYSGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361  NKERSEALRRQQLEQQQRENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQQE
421  REQRRHYEEQMRREEERRRAEHEQEYIRRQLEEEQRQLEILQQQLLHEQALLLEYKRKQL
481  EEQRQAERLQRQLKQERDYLVSLQHQRQEQRPVEKKPLYHYKEGMSPSEKPAWAKEVEER
541  SRLNRQSSPAMPHKVANRISDPNLPPRSESFSISGVQPARTPPMLRPVDPQIPHLVAVKS
601  QGPALTASQSVHEQPTKGLSGFQEALNVTSHRVEMPRQNSDPTSENPPLPTRIEKFDRSS
661  WLRQEEDIPPKVPQRTTSISPALARKNSPGNGSALGPRLGSQPIRASNPDLRRTEPILES
721  PLQRTSSGSSSSSSTPSSQPSSQGGSQPGSQAGSSERTRVRANSKSEGSPVLPHEPAKVK
781  PEESRDITRPSRPADLTALAKELRELRIEETNRPMKKVTDYSSSSEESESSEEEEEDGES
841  ETHDGTVAVSDIPRLIPTGAPGSNEQYNVGMVGTHGLETSHADSFSGSISREGTLMIRET
901  SGEKKRSGHSDSNGFAGHINLPDLVQQSHSPAGTPTEGLGRVSTHSQEMDSGTEYGMGSS
961  TKASFTPFVDPRVYQTSPTDEDEEDEESSAAALFTSELLRQEQAKLNEARKISVVNVNPT
1021 NIRPHSDTPEIRKYKKRFNSEILCAALWGVNLLVGTENGLMLLDRSGQGKVYNLINRRRF
1081 QQMDVLEGLNVLVTISGKKNKLRVYYLSWLRNRILHNDPEVEKKQGWITVGDLEGCIHYK
1141 VVKYERIKFLVIALKNAVEIYAWAPKPYHKFMAFKSFADLQHKPLLVDLTVEEGQRLKVI
1201 FGSHTGFHVIDVDSGNSYDIYIPSHIQGNITPHAIVILPKTDGMEMLVCYEDEGVYVNTY
1261 GRITKDVVLQWGEMPTSVAYIHSNQIMGWGEKAIEIRSVETGHLDGVFMHKRAQRLKFLC
1321  ERNDKVFFASVRSGGSSQVFFMTLNRNSMMNWZ
```

FIG._31

```
1    MASDSPARSLDEIDLSALRDPAGIFELVELVGNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61   DEEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMEFCGAGSVTDLIKNT
121  KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENAEVKLVDFGVSAQLDR
181  TVGRRNTFIGTPYWMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241  ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301  QLKDHIDRTKKKRGEKDETEYEYSGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361  NKERSEALRRQQLEQQQRENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQQE
421  REQRRHYEEQMRREEERRRAEHEQEYKRKQLEEQRQAERLQRQLKQERDYLVSLQHQRQE
481  QRPVEKKPLYHYKEGMSPSEKPAWAKEIPHLVAVKSQGPALTASQSVHEQPTKGLSGFQE
541  ALNVTSHRVEMPRQNSDPTSENPPLPTRIEKFDRSSWLRQEEDIPPKVPQRTTSISPALA
601  RKNSPGNGSALGPRLGSQPIRASNPDLRRTEPILESPLQRTSSGSSSSSSTPSSQPSSQG
661  GSQPGSQAGSSERTRVRANSKSEGSPVLPHEPAKVKPEESRDITRPSRPASYKKAIDEDL
721  TALAKELRELRIEETNRPMKKVTDYSSSSEESESSEEEEEDGESETHDGTVAVSDIPRLI
781  PTGAPGSNEQYNVGMVGTHGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFA
841  GHINLPDLVQQSHSPAGTPTEGLGRVSTHSQEMDSGTEYGMGSSTKASFTPFVDPRVYQT
901  SPTDEDEEDEESSAAALFTSELLRQEQAKLNEARKISVVNVNPTNIRPHSDTPEIRKYKK
961  RFNSEILCAALWGVNLLVGTENGLMLLDRSGQGKVYNLINRRRFQQMDVLEGLNVLVTIS
1021 GKKNKLRVYYLSWLRNRILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKN
1081 AVEIYAWAPKPYHKFMAFKSFADLQHKPLLVDLTVEEGQRLKVIFGSHTGFHVIDVDSGN
1141 SYDIYIPSHIQGNITPHAIVILPKTDGMEMLVCYEDEGVYVNTYGRITKDVVLQWGEMPT
1201 SVAYIHSNQIMGWGEKAIEIRSVETGHLDGVFMHKRAQRLKFLCERNDKVFFASVRSGGS
1261 SQVFFMTLNRNSMMNWZ
```

FIG._32

```
1    MASDSPARSLDEIDLSALRDPAGIFELVELVGNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61   DEEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMEFCGAGSVTDLIKNT
121  KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENAEVKLVDFGVSAQLDR
181  TVGRRNTFIGTPYWMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241  ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301  QLKDHIDRTKKKRGEKDETEYEYSGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361  NKERSEALRRQQLEQQQRENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQQE
421  REQRRHYEEQMRREEERRRAEHEQEYKRKQLEEQRQAERLQRQLKQERDYLVSLQHQRQE
481  QRPVEKKPLYHYKEGMSPSEKPAWAKEVEERSRLNRQSSPAMPHKVANRISDPNLPPRSE
541  SFSISGVQPARTPPMLRPVDPQIPHLVAVKSQGPALTASQSVHEQPTKGLSGFQEALNVT
601  SHRVEMPRQNSDPTSENPPLPTRIEKFDRSSWLRQEEDIPPKVPQRTTSISPALARKNSP
661  GNGSALGPRLGSQPIRASNPDLRRTEPILESPLQRTSSGSSSSSSTPSSQPSSQGGSQPG
721  SQAGSSERTRVRANSKSEGSPVLPHEPAKVKPEESRDITRPSRPADLTALAKELRELRIE
781  ETNRPMKKVTDYSSSSEESESSEEEEEDGESETHDGTVAVSDIPRLIPTGAPGSNEQYNV
841  GMVGTHGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFAGHINLPDLVQQSH
901  SPAGTPTEGLGRVSTHSQEMDSGTEYGMGSSTKASFTPFVDPRVYQTSPTDEDEEDEESS
961  AAALFTSELLRQEQAKLNEARKISVVNVNPTNIRPHSDTPEIRKYKKRFNSEILCAALWG
1021 VNLLVGTENGLMLLDRSGQGKVYNLINRRRFQQMDVLEGLNVLVTISGKKNKLRVYYLSW
1081 LRNRILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIYAWAPKPYH
1141 KFMAFKSFADLQHKPLLVDLTVEEGQRLKVIFGSHTGFHVIDVDSGNSYDIYIPSHIQGN
1201 ITPHAIVILPKTDGMEMLVCYEDEGVYVNTYGRITKDVVLQWGEMPTSVAYIHSNQIMGW
1261 GEKAIEIRSVETGHLDGVFMHKRAQRLKFLCERNDKVFFASVRSGGSSQVFFMTLNRNSM
1321 MNWZ
```

FIG._33

```
1    MASDSPARSLDEIDLSALRDPAGIFELVELVGNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61   DEEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMEFCGAGSVTDLIKNT
121  KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENAEVKLVDFGVSAQLDR
181  TVGRRNTFIGTPYWMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241  ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301  QLKDHIDRTKKKRGEKDETEYEYSGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361  NKERSEALRRQQLEQQQRENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQQE
421  REQRRHYEEQMRREEERRRAEHEQEYIRRQLEEEQRQLEILQQQLLHEQALLLEYKRKQL
481  EEQRQAERLQRQLKQERDYLVSLQHQRQEQRPVEKKPLYHYKEGMSPSEKPAWAKEIPHL
541  VAVKSQGPALTASQSVHEQPTKGLSGFQEALNVTSHRVEMPRQNSDPTSENPPLPTRIEK
601  FDRSSWLRQEEDIPPKVPQRTTSISPALARKNSPGNGSALGPRLGSQPIRASNPDLRRTE
661  PILESPLQRTSSGSSSSSSTPSSQPSSQGGSQPGSQAGSSERTRVRANSKSEGSPVLPHE
721  PAKVKPEESRDITRPSRPADLTALAKELRELRIEETNRPMKKVTDYSSSSEESESSEEEE
781  EDGESETHDGTVAVSDIPRLIPTGAPGSNEQYNVGMVGTHGLETSHADSFSGSISREGTL
841  MIRETSGEKKRSGHSDSNGFAGHINLPDLVQQSHSPAGTPTEGLGRVSTHSQEMDSGTEY
901  GMGSSTKASFTPFVDPRVYQTSPTDEDEEDEESSAAALFTSELLRQEQAKLNEARKISVV
961  NVNPTNIRPHSDTPEIRKYKKRFNSEILCAALWGVNLLVGTENGLMLLDRSGQGKVYNLI
1021 NRRRFQQMDVLEGLNVLVTISGKKNKLRVYYLSWLRNRILHNDPEVEKKQGWITVGDLEG
1081 CIHYKVVKYERIKFLVIALKNAVEIYAWAPKPYHKFMAFKSFADLQHKPLLVDLTVEEGQ
1141 RLKVIFGSHTGFHVIDVDSGNSYDIYIPSHIQGNITPHAIVILPKTDGMEMLVCYEDEGV
1201 YVNTYGRITKDVVLQWGEMPTSVAYIHSNQIMGWGEKAIEIRSVETGHLDGVFMHKRAQR
1261 LKFLCERNDKVFFASVRSGGSSQVFFMTLNRNSMMNWZ
```

FIG._34

```
1    MASDSPARSLDEIDLSALRDPAGIFELVELVGNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61   DEEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMEFCGAGSVTDLIKNT
121  KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENAEVKLVDFGVSAQLDR
181  TVGRRNTFIGTPYWMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241  ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301  QLKDHIDRTKKKRGEKDETEYEYSGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361  NKERSEALRRQQLEQQQRENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQQE
421  REQRRHYEEQMRREEERRRAEHEQEYKRKQLEEQRQAERLQRQLKQERDYLVSLQHQRQE
481  QRPVEKKPLYHYKEGMSPSEKPAWAKEIPHLVAVKSQGPALTASQSVHEQPTKGLSGFQE
541  ALNVTSHRVEMPRQNSDPTSENPPLPTRIEKFDRSSWLRQEEDIPPKVPQRTTSISPALA
601  RKNSPGNGSALGPRLGSQPIRASNPDLRRTEPILESPLQRTSSGSSSSSSTPSSQPSSQG
661  GSQPGSQAGSSERTRVRANSKSEGSPVLPHEPAKVKPEESRDITRPSRPADLTALAKELR
721  ELRIEETNRPMKKVTDYSSSSEESESSEEEEEDGESETHDGTVAVSDIPRLIPTGAPGSN
781  EQYNVGMVGTHGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFAGHINLPDL
841  VQQSHSPAGTPTEGLGRVSTHSQEMDSGTEYGMGSSTKASFTPFVDPRVYQTSPTDEDEE
901  DEESSAAALFTSELLRQEQAKLNEARKISVVNVNPTNIRPHSDTPEIRKYKKRFNSEILC
961  AALWGVNLLVGTENGLMLLDRSGQGKVYNLINRRRFQQMDVLEGLNVLVTISGKKNKLRV
1021 YYLSWLRNRILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIYAWA
1081 PKPYHKFMAFKSFADLQHKPLLVDLTVEEGQRLKVIFGSHTGFHVIDVDSGNSYDIYIPS
1141 HIQGNITPHAIVILPKTDGMEMLVCYEDEGVYVNTYGRITKDVVLQWGEMPTSVAYIHSN
1201 QIMGWGEKAIEIRSVETGHLDGVFMHKRAQRLKFLCERNDKVFFASVRSGGSSQVFFMTL
1261 NRNSMMNWZ
```

FIG._35